Cow Tester's Handbook

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COW TESTER'S HANDBOOK

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The association tester and the individual member are two vital factors in the successful operation of a cow testing association. The question often arises among members and testers, especially those who have not had association experience before, as to what is expected of the tester in addition to testing the milk and keeping the records. A cow tester's greatest asset is the respect and confidence that the members have in him. His success depends a great deal on the way in which advice and suggestions are given and very generally upon the way he conducts himself on the route. The tester who is boastful of what he knows, or takes too critical an attitude and assumes an impenetrable independence, sooner or later finds himself in more or less serious trouble.

There is always extra work connected with the tester's visit to a member, especially during the winter months when the testing may have to be done in the house. Where warm outside quarters are not available every consideration must be given the housewife. Testers should do their work with as little interference, muss, and confusion as possible. Acid spilled on the floor or table has been a cause for members to drop out or refuse to join the association again. Some members look to the tester for the latest choice bits of neighborhood gossip and scandal. They know

that he knows many things that they would like to know. It would be well for testers to forget all that has been said and done at other farms that might cause ill feeling if repeated.

Testers who keep and read a good dairy paper are informed on the latest developments in dairying and can talk intelligently on topics vital to dairymen. Whenever possible the tester should take an active part in farmer's clubs and in that way acquire a wider acquaintance. This helps to interest dairymen in the work.

One of the important responsibilities assumed by testers is that of aiding members to dispose of surplus stock. The tester knows generally who wants to buy and who has stock for sale. The banker, the buttermaker, and the county agricultural agent are vitally interested in rural development and progress; the tester who does not make it a point to talk things over with these men is missing one of the best opportunities afforded him.

New cow testers are needed constantly to fill vacancies in old associations and to take charge of newly organized associations. Testing offers a splendid opening for ambitious young men interested in dairying to earn a good living while getting the finest experience possible. Every prospective dairyman needs this experience in the successful management of a dairy herd.

Success and progress in association work depend upon having high-class, ambitious, reliable men to do the testing. Testers now in the field should avail themselves of the chance to interest such men in testing association work.

Brief Qualifications of a Tester

1. At least 21 years of age.
2. Interested in dairying.
3. Dairy farm experience.
4. Ability to figure accurately.
5. A pleasing personality and able to get along well with people.

COW TESTING ASSOCIATION GUIDE AND REGULATIONS

The following rules and suggestions for conducting a testing association have been prepared after a careful study of cow testing associations, and the many questions that have come up from time to time, in order to unify the methods in testing associations throughout Minnesota, and to meet the demands of testers and members for a definite guide.

Taking Weights and Samples

1. Balance the scales carefully.
2. Greater accuracy is obtained when the tester has his own weigh pail.
3. Read weights carefully to tenths of a pound.
4. Record weight in barn book before sampling.
5. Thoroly mix the milk by stirring or pouring into another pail, then take the sample.
6. All weighing and sampling must be done by the tester.
7. Testers shall not help with the milking.
8. Use corrosive sublimate tablets to prevent samples souring in hot weather. Use one small

tablet or one fourth of larger tablets to each sample.

9. **Keep all milk samples under lock and key.**

Testing

The testing soon becomes a daily routine and some of the details which determine accuracy are likely to be neglected. Good work is difficult with an outfit in a dilapidated condition.

Requirements for Accurate Results

1. A well balanced Babcock tester (oil frequently).
2. Clean glassware.
3. Sample bottles numbered and with tight covers.
4. The divider must be tight enough in the joint that it will not spread or close without some pressure from the operator's fingers.
5. The proper speed of centrifuge, depending on make of machine. (See table page 5.)
6. The right length of time for each turning, 5, 3, and 2 minutes respectively.
7. Taking the samples.
   (a) Warm the milk samples in a waterbath at 90 degrees before mixing. This is very important in cold weather. Mix thoroly by pouring the sample from one jar to another, until the cream is completely mixed with the milk.
   (b) For best results have the milk in the test bottles between 60 and 70 degrees F. at time of adding the sulphuric acid.
   (c) Immediately upon removing the test bottles from the tester after the last turning,

place the bottles in a hot-water bath covering the fat column at 135 to 140 degrees F. allowing five minutes before reading.

Proper Speeds for Babcock Testing Machines of Various Sizes

The following table shows the necessary speeds of the spindle of various sizes to get the proper rise of fat:

Diameter of reel Inches	Revolutions of spindle per minute
10	1074
12	980
14	909
16	848
18	809
20	759
22	724

To determine the number of turns of the crank necessary per minute: turn the crank once and count the number of revolutions of the spindle and divide into the required speed for a machine of that size.

Testing Skimmilk

This is a service which looks small, but reports during the last year show that members of cow testing associations have saved thousands of dollars by having the cream separators adjusted to skim clean.

Reading the Tests

1. Read the test immediately on removing the bottle from the hot water bath. Cooling con-

tracts the fat column, resulting in an inaccurate reading.

2. Use a needle-point compass divider.
3. Take your time when reading tests to insure accuracy.

Calculating the Records

1. A yearly record constitutes 365 days.
2. If a cow freshens twice within 12 months, one entire lactation period and a part of the next shall be counted.
3. Do not credit a cow with production made previous to the beginning of a testing year.
4. To calculate records for cows freshening or going dry between visits of the tester:
   (a) The owner must keep dates of freshening and drying for tester's reference.
   (b) Example for cow freshening after tester's visit:

   Testing day is April 10, cow is fresh April 12, the tester shall use the May weights and test to credit the cow with 15 days production in April. The first three days following date of freshening are not to be considered.

   (c) Example for cow going dry after tester's visit.

   Testing day is April 10, cow is dry April 20. The cow shall be credited with 20 days production in April on the basis of tests made on April 10.
5. Use calendar month in computing records, as April 30 days, May 31 days, etc.

6. Value of product. Use the last creamery statement in figuring the price of milk or butterfat. Credit each member's cow according to price actually received for milk or butterfat. Do not attempt to fix a standard price for all members in order to make certain comparisons.

Barn Book

1. Enter all cows in the herd in the barn book whether dry or in milk.
2. Charge feed cost to dry cows and indicate as return below cost of feed.
3. Do not charge feed to heifers not yet in milk.
4. Make all entries and calculations called for in the barn book, as this shall be the tester's permanent record of the herd tested.
5. Indicate the herd average of milk and butterfat production on the barn book sheet.
6. Find the average test by dividing the total fat for the month by the total amount of milk produced.

Herd Book

(A neat, accurate, complete herd book adds to your success as a cow tester.)

1. Read carefully the instructions found on the inside cover pages of the herd book.
2. Make all entries with pen and ink, avoid erasures, and make figures very readable.
3. Keep the herd books up to date at all times. Members become discontented when books are poorly kept. Total the entries each

month so that the member may know at a glance what each cow is doing.

4. Enter in the herd book on the first visit:
   (a) The cow's name, age, weight, date last fresh, date last bred, breed, and all you can find out regarding the sire and dam of the cow.
   (b) A good time to get this information is after the evening chores are done. The member will be glad to help you, but don't expect him to make these entries for you.
5. Do not carry the herd books from place to place. A herd book in the tester's kit does the member no good.

Calculating Feed Costs

1. Use prices paid or current market prices on feed, roughage, and silage.
2. Weigh silage, hay, and feed fed to all cows. Don't guess or accept owner's statement; he may not have weighed recently.
3. Figure the price of silage as one fourth or one third the price of average hay.
4. Charge pasture 75 cents to $2 per month per cow, depending on the quality and the value of the land.

Annual Summary

1. Write to the office at University Farm for summary material at least 60 days before completing the year's work.

2. The individual cow strips should be filled out on the last trip.
3. Do not fill out strips on cows that have been sold, have died, or have not been in the association nine (9) months of the year.
4. Great care should be used in filling out the strips, as they are sent to Washington, D. C., in return for supplies, which the cow testing association receives free of charge.

Computing Yearly Herd Average

1. Records of cows sold as unprofitable may be omitted from the yearly herd average, provided the cows are not in the herd when the testing year ends. Completed or partially completed records on cows sold for dairy purposes may be included if desired.

   A herd average is influenced by a number of factors, such as breeding, feeding, management, and disease, and the degree to which any one or all is present or absent may determine whether or not the herd average is large or small.
2. A method which takes into consideration as many factors as possible, including dry periods, as well as partial records of cows added or sold is very desirable.

COW-MONTH METHOD OF COMPUTING YEARLY HERD AVERAGE

There has been a growing demand for a uniform method of arriving at herd averages in cow testing associations that would be fair and repre-

sentative. One that would include all cows in the herd regardless of the length of time in milk.

Month	Cows in milk	Cows dry	Cows in herd	Remarks
January	12	2	14	
February	14	0	14	
March	13	0	13	Sold 1 cow
April	15	1	16	Purchased
May	15	1	16	3 cows
June	16	0	16	
July	15	1	16	
August	12	4	16	
September	11	5	16	
October	14	2	16	
November	16	0	16	
December	16	0	16	
				185 cow months

The average number of cows in the herd for the year is 185 ÷ 12 = 15.41. The monthly herd summary sheet in the herd book, when properly kept, will give all information needed to use this method of figuring the herd average. When the total milk and butter for each month, as shown in the summary page, is taken for the grand total there will be included in the total all the butterfat and milk that there should be, no more and no less. When the number representing the average number of cows ends in a

fraction it shoud be carried out to two decimal places.

The herd average for milk, butterfat, and other items can be determined by dividing the totals for the year by the average number of cows in the herd, according to the above method.

No other method shall be used without consulting the supervisor of cow testing associations, University Farm, St. Paul, Minn.

Annual Summary

1. The annual report with a statement showing what has been accomplished may be either printed in booklet form or mimeographed, at a very small cost. When the booklet form is used, local advertising may be secured to cover part of the expense. Many dairymen who are not testing and some members have only a vague idea of what testing is accomplishing.

   Through the printed annual report a more direct appeal can be made to individual members and any others interested in the promotion of better dairying.

2. Of what importance is an annual summary?
   (a) It furnishes information that is of interest to every dairyman in the state, and particularly to your association.
   (b) It shows by comparison what may be accomplished.
   (c) It is a strong factor in interesting others to join the association.
   (d) It shows in a general way the status of dairying in the community.

3. The tester should study carefully the forms used in making the report before starting on his last trip, in order to make note of the information needed from each herd.
4. Make 3 copies of forms 1, 2, 3, and 4. Send one to the county agent, one to the secretary of the cow testing association, and one to the Extension Division, University Farm, St. Paul, not later than two weeks after the year's work is completed.

Reporting Each Month's Work

The cow tester's report each month furnishes the material for the cow testing association news letter. More than 1600 copies of the news letter were mailed in November, 1923. The list is growing with the addition of new associations. In order to keep the mailing list up to date, testers are urged to report promptly the address of a new member.

All records entered in the month's report should be checked carefully by the tester. Errors creeping into the news letter through a tester's oversight are serious and it is impossible for the office to correct them, because of not having access to the records. An association month is from the first day to and including the last day of the month.

All reports must reach the University Farm office not later than the tenth of the month in order to be in time for the news letter.

When apparent inaccuracies occur in any part of the report, that part will be omitted from the news letter. The members of the association like

to see news from their association, either personal or general, in the news letter. Always try to include some news item. Those who compile the news letter can not write your news notes.

In computing the milk and butterfat average for a herd for the month, do not count dry cows in the calculation. All cows in milk, even if milked only once a day, should be considered. Some test association members like to drop cows from test near the end of their lactation, in order to avoid a low herd average. Such practice is unfair to the cow, for in such cases she is not credited with all her production. A cow may not make a great many pounds of fat the last few months of the lactation, but it may be what is needed to put her over the pound a day mark, or that amount which places the cow in either the profit or the boarder class. Keep the cows on test the full time regardless of the influence on the herd average for the month or year.

Special Cases

1. When cows have abnormally high or low tests it is suggested that the average of the previous and following months be taken for the abnormal test. A fresh cow in high condition or one nearly dry may test high for a month or two, and still be perfectly all right.
2. Any suspicion that unscrupulous methods are being practiced by either tester or members in making records, shall be reported at once to the secretary of the association and the cow testing supervisor at University Farm.

3. Members are urged to report dissatisfactions to the secretary at the time they take place in order that there be no delay in correcting the trouble.

Boarder Cows

There are several things to consider before a cow is finally condemned as a boarder. One should always consider whether the cow has been given every possible chance to do her best or whether some very important factors have been overlooked. It is well to remember that many good producing cows did very poorly as two-year-olds. Cows, like apple trees, may have off years, hence the value of testing year after year.

Other factors that may cause a fairly good cow to show up poorly in the year's work are:

1. Lack of sufficient quantities of the proper feeds for milk production.
2. A very short dry period or none at all.
3. The cow's body in a poor and run down condition previous to freshening.
4. Disease.
5. Cold, uncomfortable barns and inadequate water supply.
6. Taking cows off test before the year's work is completed in order to maintain a creditable herd average.

Encourage your members to

Give their herds better care.
Build a silo if advisable.
Grow clover, alfalfa, and soybeans.
Use pure sires of tested ancestry.
Test the herd for tuberculosis.

Use more dairy products in the home.

Produce cleaner milk and install a cream cooling tank so as to deliver first-class cream to the co-operative creamery, or whole milk to the consumer.

When puzzling questions arise, write at once to the Extension Division, University Farm, St. Paul, Minn., and help will be cheerfully given.

MEMORANDUM